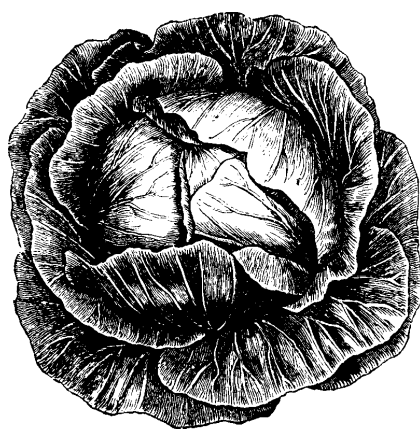


PLANT & PEST ADVISORY

VEGETABLE CROPS EDITION \$1.50

MAY 28, 2008



INSIDE

Vegetable Disease Update.....	1
Vegetable Disease of the Week.....	3
NJAES Veg Crops Extension On-line Resource Center Launched.....	4
Cold Weather Injury	4
Postemergence Herbicide Crop Tolerance.....	4
Dual Magnum Labeled for Use in Pumpkins.....	4
IPM Update	5
MetaStar 2E AG Fungicide	6
Weekly Weather Summary	7

Vegetable Disease Update

Andy Wyenandt, Ph.D., Specialist in Vegetable Pathology
and Wesley Kline, Ph.D., Cumberland County Agricultural
Agent

✓ **Cole crops – Downy Mildew and Alternaria** – Symptoms of Downy mildew include purple to yellowish-brown spots on upper leaf surfaces. A grayish-white spore mass will develop and cover the underside of leaves under ideal temperatures (night temperatures of 46 to 61°F and day temperatures below 75°F. Downy mildew can kill young plants. Heavily infected leaves may drop providing entry points for bacterial infections (Black rot and Soft rot). Symptoms of Alternaria on infected leaves include small, expanding circular lesions with concentric rings that may have a ‘shot-hole’ appearance as lesions age. Heavily infected seedlings may result in damping-off. Control of Downy mildew and Alternaria begin with preventative fungicide applications. Use one of the following at the first sign of disease and continue every 7 to 10 days (Please refer to the pesticide table on page F20 of the *NJ Commercial Vegetable Production Recommendations* to determine which fungicide is labeled for each specific crop.): Quadris (azoxystrobin, 11) at 6.2 to 15.4 fl oz 2.08F/A, or chlorothalonil (M5) at 1.5 pt 6F/A or OLF, or Cabrio (pyraclostrobin, 11) at 12 to 16 oz 20EG/A, or Endura (boscalid, 7) at 6 to 9 oz 70WG/A, or maneb (M3) at 1.5 to 2 lb 80WP/A or OLF, or Ridomil Gold Bravo (mefenoxam + chlorothalonil, 4 + M5) at 1.5 lb 76.5WP/A (14-day schedule), or Switch (cyprodinil, 9) at 11 to 14 oz 62.5WG/A (Alternaria only). For downy mildew only, apply Actigard (acibenzolar-S-methyl, P) at 1 oz 50WG/A (begin applications 7-10 days after thinning and re-apply every 7 days for a total of 4 applications per season.), or Aliette (fosetyl Al, 33) at 3 to 5 lb 80WDG/A (on 14-day schedule). For more information please see *2008 New Jersey Commercial Vegetable Production Recommendations Guide*.

✓ **Cucumber/Pickles –Angular leaf spot** - Symptoms are distinct and easily diagnosed. Small water-soaked lesions develop on leaves and expand until they are delimited by larger secondary veins in leaves resulting in angular lesions. After time these lesions turn brown and infected tissue drops-off resulting in ‘shotholes’. Angular leaf spot can be spread by splashing rain, insects, on the hands of workers and on farm machinery. Working in the field when the foliage is wet favors the spread of the disease. The disease can also be spread by blowing wind and in irrigation water. Best management of Angular leaf spot begins

SEE DISEASE UPDATE ON PAGE 2

with clean-seed and planting in fields that has been out of cucurbit production for at least 2 years. Cultivating when foliage and soil are wet and irrigating with pond water should be avoided. There are cucurbit varieties with resistance. Add label rate of fixed copper + mancozeb to fungicide maintenance program and repeat applications every 7 days.

✓ **Lettuce – Downy mildew** – Lettuce downy mildew has been confirmed in the area this past week. The disease is very difficult to control once established in mature fields. Symptoms of lettuce downy mildew include irregular yellowish-brown lesions on leaves. White, fuzzy sporulation will develop on the underside of leaves under ideal conditions. Please scout on a regular basis. Use one of the following during periods of high moisture and moderate temperatures.

Alternate:

Forum (dimethomorph, 40) at 6.0 fl oz 4.18SC/A (must be tank mixed with another fungicide registered on lettuce for downy mildew), or Aliette (fosetyl Al, 3) at 3 lb 80WDG/A (14-day schedule), or Maneb (M3) 1.5 to 2 lb 75DF/A (7- to 10-day schedule) or OLF, or Previcur Flex (propamocarb HCL, 28) at 2.0 pt 6F/A

With one of the following FRAC code 11 fungicides:

Quadris (azoxystrobin, 11) at 12.3 to 15.4 fl oz 2.08F/A, or Tanos (famoxodone + cymoxanil, 11 + 27) at 8 oz 50W/A plus maneb

✓ **Pepper – Phytophthora blight**

For control of the crown rot phase of blight:

Apply 1 pt Ridomil Gold 4E/A or 1 qt Ultra Flourish 2E/A (mefenoxam, 4). Apply broadcast prior to planting or in a 12- to 16-inch band over the row before or after transplanting. **Make two additional post planting** directed applications with 1 pint Ridomil Gold 4E or 1 qt Ultra Flourish 2E per acre to 6 to 10 inches of soil on either side of the plants at 30-day intervals. Use formula in the “Calibration for Changing from Broadcast to Band Application” section of Calibrating Granular Application Equipment to determine amount of Ridomil Gold needed per acre when band applications are made.

When using polyethylene mulch, apply Ridomil Gold 4E at the above rates and timing by injection through the trickle irrigation system. Dilute Ridomil Gold 4E prior to injecting to prevent damage to injector pump.

✓ **Strawberry – Anthracnose fruit rot** -Strawberry anthracnose can be extremely destructive during warm, wet weather causing significant fruit rot. Symptoms of Anthracnose include blackish-brown circular spots on maturing green fruit and soft, sunken (flat) circular lesions on ripe fruit. On ripe fruit, lesions can expand rapidly and are often covered with a pinkish-orange spore mass. Spores are spread from infected to healthy

fruit with splashing water. Control of Anthracnose always begins with a 7 to 10 day preventative spray program no later than 10% bloom and/or prior to disease development. For control apply the following combinations:

- #1) captan (M3) at 4 lb 50WP/A plus Pristine (pyraclostrobin + boscalid, 11 + 7) at 18.5 to 23.0 oz 38WG/A
- #2) captan 5(M3) at 4 lb 50WP/A plus Abound (azoxystrobin, 11) at 6.2 to 15.4 oz 2.08F/A or Cabrio (pyraclostrobin, 11) at 12 to 14 oz 20EG/A
- #3) Captevate (captan + fenhexamid, M3 + 17) at 3.5 to 5.25 lb 68WDG/A

For subsequent applications, alternate:

- captan (M3) at 4 lb 50WP/A plus Abound (azoxystrobin, 11) at 6.2 to 15.4 oz 2.08F/A, or Cabrio (pyraclostrobin, 11) at 12 to 14 oz 20EG/A with captan (M3) at 4 lb 50WP/A, or Captevate (captan + fenhexamid, M3 + 17) at 3.5 to 5.25 lb 68WDG/A

To help manage fungicide resistance development, do not make more than 2 consecutive applications of either Pristine (pyraclostrobin + boscalid, 11 + 7), Cabrio (pyraclostrobin, 11) or Abound/Quadris (azoxystrobin, 11) before switching to another fungicide chemistry.

✓ **Strawberry – Botrytis (Gray Mold) and Blossom blight** – Weather conditions have been ideal for botrytis development and it can cause serious losses in strawberry plantings if not controlled properly. Development is favored by moderate temperatures (59 to 77 F) with prolonged periods of high relative humidity and surface wetness. Control of Gray mold begins with preventative fungicide applications. Apply at 5 to 10 percent bloom and every 10 days until harvest. During periods of excessive moisture, spray intervals of 5 to 7 days may be necessary. Rotate fungicide chemistries to aid fungicide resistance management.

- Application #1: captan (M3) at 4 lb 50WP/A plus Topsin M (thiophanate-methyl, 1) at 1 lb 70WP/A or Switch (cyprodinil, 9) at 11-14 oz. 62.5WG/A
 - Application #2; Elevate (fenhexamid, 17 - See restrictions) at 1.1 to 1.5 lb 50WDG/A, or Pristine (pyraclostrobin + boscalid, 11 + 7) at 18.5 to 23 oz 38 WG/A
 - Application #3: captan (M3) at 4 lb 50WP/A plus Topsin M (thiophanate-methyl, 1) at 1 lb 70WP or Switch (cyprodinil, 9) at 11 to 14 oz. 62.5WG/A
- For subsequent applications, alternate:
 Captan (M3) at 4 lb 50WP/A, or Captevate (captan + fenhexamid, M3 + 17) at 3.5 to 5.25 lb 68WDG/A, or Switch (cyprodinil, 9) at 11 to 14 oz. 62.5WG/A or Pristine (pyraclostrobin + boscalid, 11 +7) at 18.5 to 23 oz 38 WG/A, or Thiram (M3) at 4 to 5 lb 65WSB/A

✓ **Strawberry – Leather rot** - Leather rot caused by *Phytophthora cactorum* can be extremely damaging if left uncontrolled, especially if wet soil conditions and rainy weather persist for extended periods. Weather conditions which favor Gray mold development may also

SEE STRAWBERRY ON PAGE 3

favor Leather rot. **Fungicides effective against Gray mold are not highly effective against Leather rot** (i.e. Captan, Topsin-M). Symptoms of Leather rot begin to develop as green fruit begins to develop and mature. On green fruit, infected areas often turn a dark-brown. As infection spreads, entire fruit main turn dark-brown and become 'leathery'. However, some fruit may remain mostly green with only dark-brown margins developing around the point of infection. Importantly, infection may cause fully mature fruit to turn reddish-brown to dark purple or cause no distinct symptoms. These 'healthy-looking' fruit have a very unpleasant taste and may be unintentionally harvested for sale. For control of Leather rot in:

New Plantings:

Aliette (fosetyl-AI, 33) at 2.5 to 5.0 lb 80WDG/A. Begin 14 to 21 days after planting and continue on a 30 to 60 day interval as long as favorable disease conditions occur, or

Ridomil Gold (mefenoxam, 4) at 1 pt 4E/A. Make one application at transplanting plus an additional application at fruit set or 30 days before harvest.

Established Plantings:

Aliette (fosetyl-AI, 33) at 2.5 to 5 lb 80WDG/A, or Ridomil Gold (mefenoxam, 4) at 1 pt 4E/A. Apply in spring before first bloom and repeat once in the fall.

✓ **Tomato – Bacterial spot and speck – Both bacterial diseases can cause serious problems in the field if infections begin in the greenhouse prior to transplanting.** Symptoms of spot and speck look very similar on infected leaves. Lesions are small, circular, blackish-brown and with time develop a halo, or yellowing of tissue surrounding the lesion. As lesions develop they can coalesce (join together) and can cause premature death. Since sources for these diseases include seed, weed hosts, volunteer plants and contaminated wood (benches) make sure production or holding areas are disinfested, weed-free and clean prior to introducing transplants. Inspect all seedlings prior transplanting. Infections can occur on all parts of the tomato plant and can easily be spread during transplant production and transplanting with contaminated equipment and workers hands. Tomato transplants with suspected symptoms can be treated with streptomycin (Agri-Mycin 17, Agri-Strep, 25) at 1 lb/100 gallons, or 1.25 teaspoon per gallon every 4 to 5 days prior to transplanting. Additionally, Kocide 3000 (copper hydroxide, FRAC code M1), the updated formulation from DuPont, has a greenhouse label for speck and spot control in the greenhouse. Apply ½ to 1.5 TBSP per 1000 sq ft. every 5 to 10 days. Remember, phytotoxicity is an important issue when apply copper in enclosed structures, see label for cautions, restrictions and liabilities. After transplanting, apply Actigard at 0.33 oz 50 WG/A, or fixed copper (M1) at 1 lb a.i./A plus a mancozeb (Dithane, Manex II, Manzate, Penncozeb, M3) at 1.5 lb 75DF or OLF, or ManKocide (M1 + M3) at 2.5 to 5.0 lb 61WP/A, or Cuprofix MZ (M1 + M3) at 1.75 to 7.25 lb 52.5DF/A on a 7 day schedule. □

Vegetable Disease of the Week

Andy Wyenandt, Ph.D., Specialist in Vegetable Pathology



Botrytis (Grey mold) of strawberry



Symptoms of Bacterial leaf spot on leaves of infected tomato

NJAES Vegetable Crops Extension On-line Resource Center Launched

The Vegetable Working Group is proud to announce the launch of the NJAES Vegetable Crops Extension On-line Resource Center. The new website is dedicated to New Jersey's vibrant vegetable farming community and will be a portal for important information on all aspects of commercial and retail vegetable production, as well as a link to the expertise of the vegetable working group. Up-to-date information on food safety, IPM, marketing, high tunnel production, pest control and much more can all be found on the site.

Please visit the website at: <http://njveg.rutgers.edu/> and let us know what you think! □

Postemergence Herbicide Crop Tolerance

Bradley A. Majek, Ph.D., Specialist in Weed Science

The recent extended period of cloudy weather and high soil moisture may have resulted in certain crops growing rapidly and developing a thinner than "normal" wax layer, called the cuticle, on the leaves. This thinner cuticle is more easily penetrated by postemergence herbicides. Warm temperatures during the cloudy moist period will increase the speed of growth and the thinness of the cuticle.

To reduce the risk of crop injury from postemergence herbicides this week:

1. Reduce the amount of spray additives used to the minimum labeled amount.
2. Use nonionic surfactants instead of oil concentrates when the herbicide label gives you a choice.
3. Do NOT add any surfactant, oil concentrate, or other additive if the label allows application alone.
4. Do NOT add liquid fertilizer to the spray solution, even if the herbicide label suggests it as an option.
5. Delay treatment of crops that are marginally large enough to treat according to the herbicide label.
6. Delay treatment until the crop has experienced 3 to 5 days of bright, clear, warm, and sunny weather before applying postemergence herbicides. The cuticle thickens when the weather turns warm, sunny, and dry. □

Cold Weather Injury

Bradley A. Majek, Ph.D., Specialist in Weed Science

Cold weather earlier in the season may result in abnormal growth of peppers, tomatoes, and other "warm season" crops during the next few weeks. Low temperatures can injure tiny leaves in the growing points. When these leaves grow out a few weeks after the cold event, they may exhibit a variety of epinastic responses that resemble virus or 2,4-D drift injury. Leaves may be crinkled, stretched, the midvein may be shortened, and/or the leaves may appear otherwise abnormal. The response can be very variable, and variety specific. Night temperatures after transplanting need not drop to freezing to cause this injury. Night temperatures in the upper thirties and even forties can affect "soft" plants just out of the greenhouse. The plant will outgrow the problem in time. □

Dual Magnum Labeled for Use in Pumpkins

Bradley A. Majek, Ph.D., Specialist in Weed Science

Apply Dual Magnum preemergence to the target weeds, at 1.0 to 1.33 pints per acre **BETWEEN** the rows or hills of pumpkins to suppress or control **yellow nutsedge** and certain **annual broadleaf weeds**, including **galinsoga** and **nightshade** species. Dual Magnum will not control emerged weeds. Leave a minimum of 1 foot (12 inches) untreated over the row or hill, and do not allow Dual Magnum to contact pumpkin foliage if the crop has emerged or was transplanted. Use the lower rate on coarse textured soils that are low in organic matter, and the higher rate on fine textured soils and soils with higher organic matter. Do NOT apply Dual Magnum closer than 30 days before harvest.

Do not apply Dual Magnum directly over the pumpkin row, or crop injury may result. Pumpkins injured by Dual Magnum may appear healthy and may have an exceptionally dark green color to the foliage, but will be smaller than untreated pumpkins. An untreated check row may be needed for the injury to be apparent. The untreated pumpkins may appear to be a more "medium" green color and may be larger and seem to be growing more vigorously. Dual magnum injury may result in reduced yield and/or delayed maturity. □

IPM Update

Kristian Holmstrom, Research Project Coordinator II, Vegetable IPM Program

Sweet Corn

Trap catches of **European corn borer (ECB)** adults continued to be light over the past week, although warmer weather since the weekend resulted in moth activity in more areas. Night temperatures are forecast to increase toward the end of this week. This should result in significant increases in adult ECB activity throughout the state. Egg laying will commence with warmer, drier weather. At the present time, ECB adult activity is concentrated in the southwestern counties and in western Warren County (See ECB map).

The highest nightly ECB catches for the previous week are as follows:

Downer	1	Mannington	1	Tabernacle	1
Hammonton	1	Phillipsburg	1	Woodstown	1
Indian Mills	1	Seeley Lake	1		
Jones Island	1	Shirley	1		

Adult **corn earworms (CEW)** have been caught in more locations over the past week. Catches range from Cumberland County to Warren County. Numbers are low, but the widespread nature of the catches indicates that there is a potentially damaging population throughout the state. As the earliest sweet corn plantings begin silking within the next several weeks, growers should access information on CEW populations from this publication or from population maps posted on the RCE Vegetable IPM Program website: <http://www.pestmanagement.rutgers.edu/IPM/Vegetable/Pest%20Maps/maparchive.htm>

This population will be watched closely, and recommendations for early season control for silking sweet corn will appear in this publication.

The highest nightly CEW catches for the previous week are as follows:

Beckett	1	Hammonton	1	Pedricktown	1
Cedarville	1	Indian Mills	1	Phillipsburg	1
Cinnaminson	1	Jones Island	1	Shirley	1
Downer	1	Mannington	1		

Scouts are finding a few **true armyworms (TAW)** feeding in whorl stage sweet corn in the southern counties. This caterpillar causes injury similar to that of fall armyworm. However, corn is not the preferred host of TAW, and feeding is not usually widespread or economically important. Where corn is in close proximity to small grains, some feeding may be present. TAW resembles FAW, except that they are not as dark, and lack the inverted "Y" on the head capsule. We would not expect FAW to be present in New Jersey until some time in July.

Cole Crops

Crucifer and striped flea beetles are attacking newly emerged and recently transplanted fields of cabbage, broccoli and related crops. While activity has been suppressed by cold temperatures, these pests can cause significant injury to small plants. Certain crops like bok choy, napa cabbage, and arugula are particularly favored by these beetles. Fields should be scouted at least once a week. Check 5 consecutive plants each in 10 random locations. If flea beetles are present on approximately 50% of the plants and damage is readily visible, consider an insecticide treatment for suppression. Repeated treatments may be required to protect plants until they gain size and grow rapidly.

Imported cabbage worm (ICW) eggs are being deposited on cole crops at this time, and small-to-medium sized larvae are now appearing in plantings. Scout plantings weekly, paying particular attention to the innermost leaves where ICW often feed. Consider treating if caterpillars are found on 10% or more plants that are in the 0-9 true leaf stage. From 9-leaf to the early head stage (in broccoli, cauliflower and cabbage) infestations up to 20% may be tolerated. Once heads begin to form, a 5% threshold should be observed to protect the marketable portion of the plant. For leafy greens such as collards and kale, 10% plants infested is the threshold throughout.

Tomatoes

Early season tomato plantings have been in the field for long enough to have acquired **aphid** populations. Generally, these are not a threat to plant health, and are frequently managed by predators and parasites if broad spectrum insecticides are avoided. Once green fruit begin to approach full size, aphids are less tolerable because their droppings can fall onto the surface of fruit and result in a sticky coating as well as a sooty mold problem. Check 5 consecutive plants each in 10 random locations. Look at two complete leaves per plant and record the number of aphid colonies in each sample. If the colonies are increasing as fruit enlarge and there is no sign of predation (presence of ladybird larvae, lacewing larvae or syrphid fly maggots) or parasitism (bloated, golden colored aphids among the healthy ones), consider treating at the first sign of sticky droppings on fruit. If no fruit, or only small fruit are present, the aphid population should be monitored and control may be delayed to permit natural control to occur.

SEE INSECT ECB AND CEW DISTRIBUTION MAPS ON PAGE 6

MetaStar™ 2E AG Fungicide

MetaStar 2E AG (metalaxyl) fungicide is a new variation of a time-tested technology that provides the grower with a broad spectrum fungicide to control water mold diseases (*Pythium* spp., *Phytophthora* spp., Downy mildews, and white rust (*Albugo* sp.)) on a wide array of fruit, vegetable, berry, and row crops throughout the growing season.

Depending on the crop and the labeling the product can be used throughout the season in several different ways. For example **MetaStar** can be used at plant as well as with a foliar application of chlorothalonil or EBDC for control of potato storage rots caused by *Phytophthora* spp. Used in foliar sprays **MetaStar** is taken up directly by the plant and moved with the water stream (xylem movement) into the plant. It even has a small amount of phloem movement to give greater distribution of the active ingredient.

In addition to excellent movement with the water flow of the plant **MetaStar** is compatible with a broad range of fertilizers, pesticides, and tank additives. It is a product that is designed to help growers build a broad spectrum disease control and storage rot program for berries, vegetables, small and large fruit, and even for row crops.

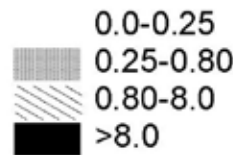
Broad spectrum disease control, excellent tank mix compatibility, systemic plant uptake, and great usage flexibility. These are the hallmarks of a proven technology that is designed to aid growers in controlling water mold diseases on their crops.

MetaStar is available in 2.5 gallon jugs.

MetaStar™ is a trademark of ArystaLife Sciences LLC.

Submitted by Win Cowgill, Agricultural Agent. □

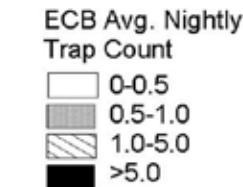
Distribution of Adult Corn Earworm for the Week Ending May 28, 2008



10 0 10 20 Miles

Data collected and processed by: Kris Holmstrom, Rutgers Cooperative Extension Pest Management Office

Distribution of Adult European Corn Borer for the Week Ending May 28, 2008



10 0 10 20 Miles

Data collected and processed by: Kris Holmstrom, Marilyn Hughes Rutgers Cooperative Extension & Center for Remote Sensing

Weekly Weather Summary

Keith Arnesen, Ph.D., Agricultural Meteorologist

Temperatures averaged much below normal, averaging 54 degrees north 56 degrees central and 57 degrees south. Extremes were 80 degrees at Canoe Brook on the 26th, and 36 degrees at Flemington on the 20th. Weekly rainfall averaged 0.54 inches north, 0.61 inches central, and 0.59 inches south. The heaviest 24 hour total reported was 0.68 inches at Glassboro on the 20th to 21st. Estimated soil moisture, in percent of field capacity, this past week averaged 98 percent north, 95 percent central and 92 percent south. Four inch soil temperatures averaged 55 degrees north, 56 degrees central and 57 degrees south.

Weather Summary for the Week Ending 8 am Monday 5/26/ 8

WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	%FC
BELVIDERE BRIDGE	.48	12.93	2.13	78	37	55.	-7	313	46	91
CANOE BROOK	.54	12.50	.57	80	38	56.	-6	312	70	94
CHARLOTTEBURG	.58	13.18	1.43	77	37	53.	-7	250	91	93
FLEMINGTON	.59	12.25	.94	77	36	55.	-8	304	47	92
NEWTON	.49	12.63	2.17	77	38	54.	-7	353	158	94
FREEHOLD	.68	9.24	-2.04	77	37	55.	-9	311	-3	94
LONG BRANCH	.61	11.12	-.52	73	41	57.	-6	247	-25	84
NEW BRUNSWICK	.62	10.95	-.13	78	37	56.	-8	320	-23	92
TOMS RIVER	.54	11.02	-.24	75	40	56.	-7	319	24	79
TRENTON	.60	10.43	.23	76	40	56.	-9	393	13	82
CAPE MAY COURT HOUSE	.54	8.53	-1.36	74	43	57.	-7	369	32	78
DOWNTOWN	.56	10.45	.30	78	40	55.	-10	410	17	83
GLASSBORO	.75	10.37	-.42	79	45	59.	-6	461	84	83
HAMMONTON	.54	8.85	-1.65	79	40	57.	-8	441	72	77
POMONA	.57	10.31	.50	76	39	56.	-8	398	85	78
SEABROOK	.56	10.45	1.16	75	44	58.	-7	466	68	83
SOUTH HARRISON	.59	11.11	1.09	76	46	58.	NA	453	NA	NA
WES KLINE -- GDD BASE 40 PINEY HOLLOW										
LAST WEEK 131 (Ending 5/19/08)										
THIS WEEK 110 (Ending 5/26/08)										

New Jersey Agricultural
Experiment Station
Plant & Pest Advisory
Rutgers School of Environmental
and Biological Sciences
ASB II, 57 US Hwy. 1
New Brunswick, N.J. 08901

RUTGERS

FIRST CLASS
POSTAGE PAID
PERMIT #576
MILLTOWN, NJ 08850

PLANT & PEST ADVISORY VEGETABLE CROPS EDITION CONTRIBUTORS

Rutgers NJAES Cooperative Extension Specialists

Gerald M. Ghidui, Ph.D., Vegetable Entomology
George Hamilton, Ph.D., Pest Management
Joseph R. Heckman, Ph.D., Soil Fertility
Bradley A. Majek, Ph.D., Weed Science
Andy Wyenandt, Ph.D., Vegetable Pathology

Rutgers NJAES-CE County Agricultural Agents

Atlantic, Richard W. VanVranken (609-625-0056)
Burlington, Raymond J. Samulis (609-265-5050)
Cape May, Jenny Carleo (609-465-5115)
Cumberland, Wesley Kline, Ph.D. (856-451-2800)
Gloucester, Michelle Infante-Casella (856-307-6450)
Hunterdon, Winfred P. Cowgill, Jr. (908-788-1338)
Middlesex, William T. Hlubik (732-398-5260)
Monmouth, Bill Sciarappa, Ph.D. (732-431-7260)
Morris, Peter J. Nitzsche (973-285-8300)
Passaic, Elaine F. Barbour, Agric. Assistant (973-305-5740)
Salem (856-769-0090)
Warren, William H. Tietjen (908-475-6505)

Vegetable IPM Program (732-932-9802)

Joseph Ingerson-Mahar, Vegetable IPM Coordinator
Kristian E. Holmstrom, Research Project Coordinator II

Newsletter Production

Jack Rabin, Associate Director for Farm Services, NJAES
Cindy Rovins, Agricultural Communications Editor

Pesticide User Responsibility: Use pesticides safely and follow instructions on labels. The pesticide user is responsible for proper use, storage and disposal, residues on crops, and damage caused by drift. For specific labels, special local-needs label 24(c) registration, or section 18 exemption, contact RCE in your County.

Use of Trade Names: No discrimination or endorsement is intended in the use of trade names in this publication. In some instances a compound may be sold under different trade names and may vary as to label clearances.

Reproduction of Articles: RCE invites reproduction of individual articles, source cited with complete article name, author name, followed by Rutgers Cooperative Extension, Plant & Pest Advisory Newsletter.

For back issues, visit our web site at:
www.rce.rutgers.edu/pubs/plantandpestadvisory